

**Amendments to the Claims:**

Claims 15-16 and 29-31 are amended. Claims 17, 25 and 32-34 are canceled by this amendment without disclaimer or prejudice to prosecution of the subject matter of the claims in a related application. This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

Claims 1-14 (cancelled)

Claim 15 (currently amended): A method for preparing an epothilone D derivative having a methyl group at C-12 and a double bond between C-12 and C-13, which method comprises providing substrates including extender units to a non-*S. cellulosum* host cell that expresses a modified functional *Sorangium cellulosum* epothilone polyketide synthase (PKS), wherein said PKS comprises

(a) *Sorangium cellulosum* EpoA, EpoB, EpoC, EpoD, and EpoF proteins and (b) a modified functional EpoE protein wherein said modification comprises at least one of:

replacement of at least one acyltransferase (AT) domain with an AT domain of different specificity in module 7 and/or module 8;

inactivation of a ketoreductase (KR) domain in module 7;

inactivation of a methyltransferase (MT) domain in module 8; and

addition of at least one of KR, dehydrogenase (DH) and enoylreductase (ER) activity in

at least one  $\beta$ -carbonyl modification domain in module 7 and/or module 8;

~~wherein the modified PKS is contained in a non-*S. cellulosum* cell or contained in a cell-free system, and wherein the modified PKS produces an epothilone D derivative with a double bond between C-12 and C-13.~~

Claim 16 (currently amended): ~~The method of claim 15 wherein modified PKS of claim 15 wherein said cell or system~~ contains additional enzymes for modification of said epothilone D derivative.

Claims 17-28 (cancelled)

Claim 29 (currently amended): A method for preparing an epothilone D derivative having a methyl group at C-12 and a double bond between C-12 and C-13, which method comprises providing substrates including extender units to a non-*S. cellulosum* host cell that expresses a modified functional epothilone polyketide synthase (PKS) contained in a non-*S. cellulosum* host cell, said PKS comprising (a) the proteins encoded by the *Sorangium cellulosum* *epoA*, *epoB*, *epoC*, *epoD*, and *epoF* genes *Sorangium cellulosum* EpoA, EpoB, EpoC, EpoD, and EpoF proteins and (b) a modified functional EpoE protein that lacks at least one activity encoded by a *Sorangium cellulosum* *epoE* gene and/or comprises at least one domain derived from a heterologous polyketide synthase (PKS), wherein the PKS produces an epothilone D derivative with a double bond between C-12 and C-13 when expressed in the cell.

Claim 30 (currently amended): ~~The method of claim 29 modified functional epothilone PKS of claim 29~~ wherein module 7 of the modified functional epothilone synthase comprises an acyl transferase (AT) domain having malonyl, ethylmalonyl, or 2-hydroxymalonyl specificity and/or module 8 of the modified functional epothilone synthase comprises an AT having malonyl, ethylmalonyl, or 2-hydroxymalonyl specificity.

Claim 31 (currently amended): ~~The method of claim 29 modified functional epothilone PKS of claim 29 wherein modified functional epothilone PKS of claim 29 that lacks a methyl transferase (MT) activity of module 8~~ of the modified functional epothilone synthase lacks a methyl transferase (MT) activity.

Claims 32-34 (cancelled)